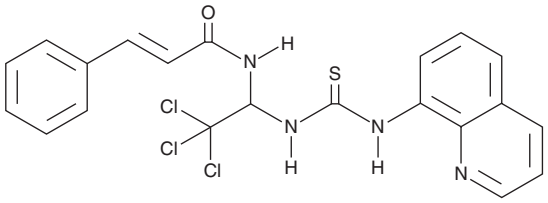
PRODUCT INFORMATION

Salubrinal

Item No. 14735

CAS Registry No.: 405060-95-9
Formal Name: (2E)-3-phenyl-N-[2,2,2-trichloro-1-[[(8-quinolinylamino) thioxomethyl]amino]ethyl]-2-propenamide
MF: $C_{21}H_{17}Cl_3N_4OS$
FW: 479.8
Purity: ≥95%
UV/Vis.: λ_{max}: 216, 246, 275 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Salubrinal is supplied as a crystalline solid. A stock solution may be made by dissolving the salubrinal in the solvent of choice, which should be purged with an inert gas. Salubrinal is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of salubrinal in these solvents is approximately 25 mg/ml.

Salubrinal is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, salubrinal should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Salubrinal has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Salubrinal is a selective phosphatase inhibitor that prevents dephosphorylation of eukaryotic translation initiation factor 2 subunit α ($eIF_{2\alpha}$), protecting PC12 cells from endoplasmic reticulum stress-mediated apoptosis (EC_{50} = 15 µM).[1,2] It appears to block the action of protein phosphatase 1 (PP1) on $eIF_{2\alpha}$ although it does not mimic calyculin A, another PP1-selective inhibitor, in toxicity or phosphorylation pattern.[1] Salubrinal also prevents replication of herpes virus (IC_{50} = 3 µM), by inhibiting dephosphorylation of $eIF_{2\alpha}$.[1] As $eIF_{2\alpha}$ has a role in bone formation, salubrinal is being studied for its effects in osteoporosis.[3]

References

1. Boyce, M., Bryant, K.F., Jousse, C., *et al.* A selective inhibitor of eIF2α dephosphorylation protects cells from ER stress. *Science* **307(5711)**, 935-939 (2005).
2. Long, K., Boyce, M., Lin, H., *et al.* Structure-activity relationship studies of salubrinal lead to its active biotinylated derivative. *Bioorg. Med. Chem. Lett.* **15(17)**, 3849-3852 (2005).
3. Yokota, H., Hamamura, K., Chen, A., *et al.* Effects of salubrinal on development of osteoclasts and osteoblasts from bone marrow-derived cells. *BMC Musculoskelet. Disord.* **14**, 197 (2013).

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